

CLAIMS

We claim:

1. A heat insulating system for tubular bodies, comprising at least two superimposed evacuated panels, each panel being internally evacuated and being formed essentially by an envelope containing inside thereof a discontinuous or porous filling material, each panel being rolled up around a rolling axis and having two opposed edges parallel to the rolling axis which are set side by side and having two other edges perpendicular to the rolling axis which form end edges of the rolled evacuated panel, wherein at least one of the evacuated panels comprises a polymeric filling material and at least another evacuated panel comprises an inorganic filling material.
2. The heat insulating system according to claim 1, wherein the polymeric filling material comprises open-celled polyurethane.
3. The heat insulating system according to claim 1, wherein the inorganic filling material is selected from the group consisting of powders, fibers and mixtures thereof.
4. The heat insulating system according to claim 3, wherein the fibers comprise glass fibers.
5. The heat insulating system according to claim 3, wherein the powders comprise powders of an inert material having mean particle dimensions of less than 100 nanometers.
6. The heat insulating system according to claim 5, wherein the powders have mean particle dimensions between about 2 and 20 nanometers.
7. The heat insulating system according to claim 5, wherein the inert material comprises silica.
8. The heat insulating system according to claim 7, wherein the silica comprises pyrogenic silica.
9. The heat insulating system according to claim 1, wherein the envelope of at least one of the panels comprises barrier sheets.
10. The heat insulating system according to claim 9, wherein the barrier sheets are multilayer sheets.
11. The heat insulating system according to claim 10, wherein the multilayer sheets comprise at least one metal foil between two plastic layers.
12. The heat insulating system according to claim 10, wherein the multilayer sheets comprise at least one metallized plastic layer.

13. The heat insulating system according to claim 1, wherein the rolled evacuated panels are arranged with the edges of one of the evacuated panels diametrically and longitudinally staggered with respect to the edges of another evacuated panel.